

Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

U. S. FOREST SERVICE RESEARCH NOTE NE-84

1968

N

ortheastern Forest

REST SERVICE, U. S. DEPT. OF AGRICULTURE, 6816 MARKET STREET, UPPER DARBY, PA

E

xperiment Station

U. S. DEPT. OF AGRICULTURE
NATIONAL AGRICULTURAL LIBRARY

SEP 17 1968

CURRENT SERIAL RECORDS

**SAPSUCKERS AND FOMES
IGNIARIUS VAR. POPULINUS**

Abstract. In aspen trees infected by *Fomes igniarius* var. *populinus*, the thin shell of sound wood enclosing the central column of decayed wood offers an ideal place for sapsuckers to peck out nests.

Yellow-bellied sapsuckers (*Sphyrapicus varius*) usually select for nesting places aspen trees (*populus tremuloides* and *P. grandidentata*) that have been infected with the fungus *Fomes igniarius* var. *populinus*. By dissecting nest trees after the nesting season (fig. 1), we can suggest why woodpeckers select these trees, and what implications this has for silviculture.

The two aspen species pioneer in areas cleared by fire or logging operations. The trees require full sunlight for optimum growth. As other more tolerant tree species begin to compete with and shade the aspens, the latter lose vigor and are weakened further by insects and diseases. The species are very susceptible to decay (1).

The principal decay fungus that infects the aspen species is *Fomes igniarius* var. *populinus* (5) and the principal infection courts are branch stubs (2). When many branches die at approximately the same time, the processes that lead to discoloration and decay begin simultaneously in the stem from many points. The discoloration and decay processes proceed centripetally, and the wood that forms after the branches die is seldom infected (7). The result is an extensive decay column of large diameter surrounded by a thin cylinder of sound wood. Such long columns of decay are rare in other species of trees in the Northeast.

The thin cylinder of sound wood surrounding the large central column of firm decay presents what seems to be an ideal situation for pecking out nests. The sapsuckers need only to penetrate the narrow

band of fairly soft sound wood, then the remainder of their task is easy.

Sapsuckers winter in the South and summer in the North, where they nest (3). They drill holes in living trees and drink the sap. These wounds initiate processes that result in discolorations or in ring shakes, a condition where cracks form between annual rings of wood (6). Sapsucker damage is concentrated near nesting areas where the birds first tap trees wounded or weakened by other agents (4), and then they attack other more vigorous trees. Forest managers should consider sapsucker nesting sites in their forest-management plans.

Literature Cited

1. Basham, J. T.
1958. DECAY OF TREMBLING ASPEN. *Can. J. Bot.* 36: 491-505.
2. Etheridge, D. E.
1961. FACTORS AFFECTING BRANCH INFECTION IN ASPEN. *Can. J. Bot.* 39: 799-816.
3. Kilham, L.
1962. BREEDING BEHAVIOR OF YELLOW-BELLIED SAPSUCKERS. *Auk* 79: 31-43.
4. Kilham, L.
1964. THE RELATIONS OF BREEDING YELLOW-BELLIED SAPSUCKERS TO WOUNDED BIRCHES AND OTHER TREES. *Auk* 81: 520-527.
5. Riley, C. G.
1952. STUDIES IN FOREST PATHOLOGY, IX. *FOMES IGNIARIUS* DECAY OF POPLAR. *Can. J. Bot.* 30: 710-734.
6. Shigo, A. L.
1963. RING SHAKE ASSOCIATED WITH SAPSUCKER INJURY. U. S. Forest Serv. Res. Paper NE-8. 10 pp., illus. NE. Forest Exp. Sta., Upper Darby, Pa.
7. Shigo, A. L.
1965. THE PATTERN OF DECAYS AND DISCOLORATIONS IN NORTHERN HARDWOODS. *Phytopathol.* 55: 648-652.

—ALEX L. SHIGO
and LAWRENCE KILHAM¹

¹ Principal Mycologist, Northeastern Forest Experiment Station, Forest Service, United States Department of Agriculture, Durham, New Hampshire; and Microbiologist, Department of Microbiology, Dartmouth Medical School, Hanover, New Hampshire.



Figure 1. — A quaking aspen (*Populus tremuloides*) tree dissected to reveal a sapsucker nest in the decayed center of the tree.